Cemented vs uncemented hemiarthroplasty

M. Asif, D. Withers, M. Eldeen

United Lincolnshire Hospitals NHS Trust, Lincoln, UK

Background: Hemiarthroplasty is one of the most commonly performed operations for displaced intracapsular hip fractures in the elderly. There is limited evidence that cementing a prosthesis in place may reduce post-operative pain and lead to better mobility and outcome.

Objectives: To assess the outcome for patients undergoing hip hemiarthroplasty and compare cemented vs uncemented implantation.

Materials and methods: 90 patients who underwent a hip hemiarthroplasty (46 uncemented austin moore and 44 cemented – 32 exter trauma stem + 12 bipolar stem) between January 2007 and January 2009 were randomly selected. Case notes were reviewed and hospital stay, 30-day mortality, complications including wound infection, significant blood loss needing at least 2 units transfusion, dislocations, thigh pain in 1st year and any 2nd operation due to complications were recorded.

Results: When comparing uncemented vs cemented prosthesis the ASA of patients was 3 vs 2.45 ($p = 0.0003$), 30-day mortality was 15.2% vs 6.8% ($p = 0.61$), wound infection incidence was 4.3% vs 6.8% ($p = 0.36$), thigh pain incidence 2.2% vs 4.5% ($p = 0.61$), dislocation rate 0% vs 2.2% ($p = 0.49$), significant blood loss was 8.7% vs 9% ($p = 1.0$) and amount of secondary procedures was 0% vs 9% ($p = 0.23$) respectively. The average hospital stay was 32.7 vs 22.8 days ($p = 0.045$), respectively.

Conclusion: Results show there was a significant difference in the ASA of patients undergoing each procedure, and this was to be expected as less fit patients are normally selected to have an uncemented prosthesis. However, we found no significant difference between all types of recorded complications and 30-day mortality rate. Also, we found a significant difference in the length of stay in hospital with the uncemented group staying on average around 9.9 days longer. We have shown in the short term there is no significant difference in risk between each procedure, however patients with cemented prosthesis seem be discharged sooner.

doi:10.1016/j.injury.2010.07.328

1B.6

The use of outcome measures in patients with proximal femoral fractures

L. Hutchings, R. Fox, T.J.S. Chesser

Department of Trauma & Orthopaedics, Frenchay Hospital, North Bristol NHS Trust, Bristol, BS16 1LE, UK

Introduction: Historically, hip fracture studies focussed predominantly on mortality and aspects of fracture fixation as outcome measures. With increasing emphasis on demonstrating outcomes, responsive, valid and reliable outcome measures are required. This study aimed to assess the current use of outcome measures in patients with hip fractures.

Methods: A review of the current English language literature was undertaken in a systematic manner. Literature screening of over 4000 papers allowed the identification of fourteen commonly used outcome scales. Studies using modified versions of scales, or involving elective procedures were excluded, leaving 162 studies. These were analysed for timing, content, method of delivery and interpretation of outcome scales.

Results: The most commonly used scales were Quality of Life (QoL), activities of daily living (ADLs), mobility, disease-specific and hip-specific scales. The most prevalent QoL scales were the SF-36 (23 papers) and Euro-QoL (16 papers), and ADL scales the Barthel Index (23 papers) and Functional Independence Measure (51 papers). Both patient-reported and physician-reported scales were used. The search revealed 43 additional scales not in common usage. Extensive variations in data collection and interpretation of outcome scales were found, with timing varying from discharge to over 4 years.

Discussion: The elderly hip fracture population has complex needs and co-morbidities, complicating the selection of a suitable outcome scale. A lack of consistency in scale usage between studies is seen, with multiple scales utilised for differing purposes. The prevalence of a scale in the literature is skewed by use in multiple studies from the same institution. Whilst there remains no single validated scale for use in this patient group, the five major categories of QoL, ADLs, mobility, disease-specific and hip-specific measures should be considered as appropriate to the study purpose, until validation of existing scales enables consensus recommendations on scale usage.

doi:10.1016/j.injury.2010.07.329

1B.7

Albumin is a significant predictor of mortality in fractured neck of femur patients whilst age, length of stay and time to operation are not

M. Jones, S. Akkena, P. Murphy, T. Clough [Wrightington]

Wrigthington Hospital, Hall lane, Appley Bridge, Wigan, Lancashire WN6 9EP, United Kingdom

E-mail address: morganjones101@hotmail.com (M. Jones).

The aim of the study was to identify significant predictors of mortality at 12 months following neck of femur fracture.

A retrospective case-note review of 300 hip fracture patients admitted to the orthopaedics trauma unit at Wrightington, Wigan and Leigh NHS trust was carried out. Age, gender, admission albumin level, total lymphocyte count (TLC), date of injury and subsequent time to surgery were recorded. Mortality was recorded at 6 and 12 months.

Age, length of stay and time to surgery were found not to significantly improve prediction of mortality at 12 months. However, when the albumin and total lymphocyte count scores were taken, prediction was significantly better than chance. Thus patients surviving at 12 months had statistically significant higher total lymphocyte and albumin levels on admission (Mann–Whitney U-test $p < 0.05$). Albumin was found to be the only individual predictor with a significant Wald chi-square value ($p = 0.003$).

Odds ratio calculation show that the males had a 149.7% greater likelihood of being dead 6 months post-injury than the females, whilst for albumin level, there was a 9.7% less likelihood of being dead at 12 months with each additional g/litre rise.

In conclusion, albumin level on admission is a highly significant predictor of mortality at both 6 and 12 months in patients suffering hip fracture. By contrast, time to surgery was not.

doi:10.1016/j.injury.2010.07.330